

Message

From: Hays, David C Jr CIV USARMY CENWK (USA) [David.C.Hays@usace.army.mil]
Sent: 1/27/2021 2:36:02 PM
To: Praskins, Wayne [Praskins.Wayne@epa.gov]
Subject: RE: HPNS: Navy swipe sample results
Attachments: EPA wipe sampling 600-r-11-122_use_of_swipe_samples.pdf

Wayne, yes. I may be driving all day today but regardless could take a call. I can make time on other days. When would be best for you this week? I concur with their statements of uncertainty with wipe testing.

FYI: The attached goes into deep detail about wipe sampling, and is likely too much info but FYI. Supports Navy declarations. Note: It fails to describe or present a path to converting gross counting activity to isotopic specific activity but please see below.

FYI: I looked at the attachments, data looks good for a 1 minute count. Note for estimating purposes; doubling the count time typically reduces the MDC by a factor of 1.4142 (i.e. the square root of 2). So a 2 min count should reduce alpha MDC to 11 dpm. I do think the Navy should also consider the specific isotope limit versus the non isotope specific counting approach. E.g. A gross alpha result of 20 dpm would need to be corrected to the specific isotope activity (Ra-226). Thus given the number of alpha decays assumed for the Ra-226 decay chain (accounting for Rn daughter equilibrium) the Ra-226 activity represented by a net gross alpha count of 20 dpm may be 20 dpm Ra-226 (assumes no equilibrium) to 4 dpm Ra-226 (assumes full equilibrium). Likely value is somewhere in between but they would have to defend their assumptions on that. This approach could be applied to estimating the Ra-226 MDC as well, but again Navy would need to make assumptions and defend them.

From: Praskins, Wayne <Praskins.Wayne@epa.gov>
Sent: Tuesday, January 26, 2021 6:16 PM
To: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Subject: [Non-DoD Source] HPNS: Navy swipe sample results

Dave –

Do you have 30 minutes or so for a call to talk about Hunters Point buildings this week? And to answer a few questions about some swipe sample data the Navy sent me this afternoon (attached)?

Thanks.

Wayne Praskins | Superfund Project Manager
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From: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>
Sent: Tuesday, January 26, 2021 2:31 PM
To: Praskins, Wayne <Praskins.Wayne@epa.gov>
Cc: juanita.bacey@dtsc.ca.gov
Subject: Non-contaminated dust samples and system detection limits

Hi Wayne,

As discussed, attached is the calibration worksheet for our onsite Protean smear counter being used by Gilbane. Also attached are the results of the non-impacted concrete smears we collected last week, as well as a list of declarations of the limitations of the data.

The important data point is the MDC (minimum detectable concentration) – the net concentration that has a specified chance of being detected; i.e. an estimate of the detection capability. For this swipe counter the alpha MDC is calculated to be 16 and the beta MDC is 20 (both in dpm /100 cm²).

As you can see by the equations at the bottom of the calibration sheet, the MDC calculations include the number of background counts, count times, number of counts, efficiency of the detector, etc.

Nina, I also included you for your information and in case you want to share with CDPH.

Let me know if you have any questions.

Derek